

SN 09/882,007

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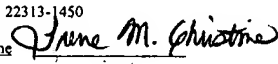
In re Patent Application :
of Leo Kayser III :
Serial No. 09/882,007 :
:
For: Automated Matching System for :
Borrowers and Savers :
Filing Date: June 15, 2001 :
Priority Date: 06/20/2000 :

U.S. PATENT AND TRADEMARK OFFICE

Examiner: Ojo O. Oyebisi

Art Unit: 3628

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**AFFIDAVIT UNDER 37 CFR 1.131 SUPPLEMENTING RULE 131 DECLARATION DATED
AUG. 16, 2006 PREVIOUSLY FILED HEREIN**

State of New York, County of New York, SS:

I, Leo Kayser III, being at least eighteen years of age, do hereby declare, upon personal
knowledge, that:

1. I am the inventor named in the above captioned patent application.
2. In 1984 I organized a New York corporation, BANKERS AUCTION MARKET OF
AMERICA CORP. or "Bamacorp" to hold title to my invention and all patents issued
for my invention. I then assigned the invention, which was made by me in the United
States, to this corporation.

3. In November of 1985 I wrote a specification fully describing my invention and entitled this specification "BAMACORP November, 1985", which I hereinafter refer to as the "1985 Specification".
4. In 1985 I printed multiple identical photocopy reproductions of the 1985 Specification. Attached hereto and incorporated herein is a **true copy** of the best available reproduction of the typed 1985 Specification.
5. The 1985 Specification has some scribed notations on it. I have been unable to locate the original of the typed 1985 Specification. No typing has been deleted from or added to the typed part. It consists of 24 pages inclusive of the cover and nine pages of drawings, references, and charts.
6. The 1985 Specification is a blueprint that fully divulges my invention. I wrote in 1985 that the invention is practiced through my assignee Bamacorp. I explain specifically how the invention is used as follows:

In the introduction starting on page 1 of the 1985 Specification, I state that through my assignee, Bamacorp, I created a more efficient mechanism for savers and borrowers to meet. The utility of my invention is established in the first two paragraphs, namely, that my system, i.e. the Bamacorp system, substantially reduces liquidity risk.

In ¶3 of p. 1 I explained that my system is accessed using Bamacorp's computer terminals and that each terminal is linked to a communications network. I state that a CPU matches bid and ask prices. On page 1 I teach that settlement is accomplished through a clearinghouse bank connected to the Bamacorp computer system.

In ¶4 of p. 1, a promissory note collateralized by the borrower, one of the keys to the invention, is divulged. Another key, a guarantee of the note by the borrower's institution, is disclosed and explained. With my system, I disclose here that the saver's funds are guaranteed by the saver's institution.

I explain that the promissory note is a contingent liability of the saver's institution and is merely reserved against by the borrower's institution.

In ¶5 of p. 1, I disclose and explain in detail how the issuer of the promissory note makes money (the beauty of my system). Next, on page 3 I teach how an institution accesses the issuer's system, determines a yield curve, and uses the yield curve to price its bid and ask prices. On page 4 a sample of information shown on a terminal screen about the promissory note issuers inventory of bid and ask prices is shown by me. Bamacorp matches the bids and asks as I explain here and a transaction is confirmed.

On page 4, I explain in detail the fees charged and how a clearinghouse electronically delivers them as recited in my new claims to my invention. Lastly, I divulge final settlement by electronic funds transfer here and I refer the reader to graphics at Appendices A, B, and C for more detail about the operation of my system.

On pages 5 and 6 I divulge and explain in detail the global reach of the novel system. Subsequently, I present a detailed description of advantages on pages 7 through 12. In pages 13-15 of the 1985 Specification I explain the surety operation and surety risk to the promissory note issuer (Bamacorp). In this part of the 1985 Specification I explain in detail how my novel system makes money.

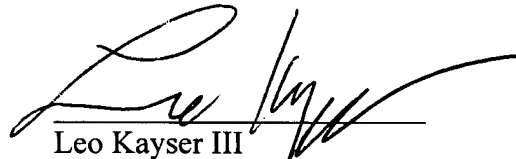
Every operational banking system for saving and loan transactions has risk. In Appendix D, I divulge the details of how I have evaluated the surety risk to the promissory note issuer. The assumptions, variables and net present value of various default situations are presented with sample calculations.

In Appendix E, I present a loan comparison using my invention. Here I show how the promissory note issuer's return on investment is amortized along with the return of funds to the borrower's institution and the borrower's cost of funds. On the last page of the 1985 Specification, I divulge a sample of cash flow and yield generated by the system and method of my invention.

7. I again searched my records after the filing of my 131 declaration herein and located a document entitled "NON-DISCLOSURE AGREEMENT" having an Exhibit A (summary description of my invention) attached. This document is an agreement between Bankers Auction Market of America Corp. and Alan H. Schneider. I signed this agreement as president of Bamacorp. I also wrote the actual date I signed it thereon. The **original** is attached and made a part of this declaration.

8. I also located a second original document entitled "NON-DISCLOSURE AGREEMENT" with another original Exhibit A attached. It correctly bears the handwritten dates "May 13, 1985" and "May 14, 1985" I observed as the actual dates of signing. This agreement was an agreement between Bamacorp and James A. Fenniman. My signature is on this agreement. The **original** is attached and made a part of this affidavit.

The affiant, Leo Kayser III, further states that the above statements were made with the knowledge that willful false statements and the like are punishable by fine and/or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that any such willful false statement may jeopardize the validity of this application or any patent resulting therefrom.


Leo Kayser III

Sworn to and subscribed before me this 15th day of May, 2007.

DEBORAH MOORE
Notary Public, State of New York
No. 01MO4818549
Qualified in New York County
Commission Expires October 31, ~~2008~~ 2010


NOTARY PUBLIC

My commission expires: Oct. 31, 2010

(SEAL)

ATTACHMENT # 6

NON-DISCLOSURE AGREEMENT

This agreement between JAMES A. FENNIMAN ("Fenniman") and any persons or entities controlled directly or indirectly by him and BANKERS AUCTION MARKET OF AMERICA CORP. (BAMA) is entered into for the purpose of non-disclosure relating to the plan annexed hereto as Exhibit A.

1. Non-Disclosure. Fenniman agrees as follows:

(a) Specifications, drawings, sketches, models, samples, data, computer programs or documentation or other technical or business information in written, graphic or other tangible form furnished, discussed or disclosed by BAMA, its officers, directors or employees, to Fenniman shall be deemed the property of BAMA and the information and all copies thereof shall be returned to BAMA upon request.

(b) Fenniman acknowledges that the "Information" is proprietary to BAMA and has been developed as a trade secret at BAMA's expense. Fenniman agrees that it will hold and use the informative in the same manner as it deals with its own proprietary information and trade secrets and that Fenniman will not divulge, nor permit any of his employees, agents or representatives to divulge any data or information with respect to the Product or the programs and technology embodied therein or any other documentation, models, descriptions, forms instructions or other information relating thereto. If Fenniman or any of his employees, agents or representatives shall attempt to use or dispose of the Product or any of its aspects or components or any duplication or modification thereof in a manner contrary to the terms of this license, BAMA shall have the right, in addition to such other remedies which may be available to it, to injunctive relief enjoining such acts or attempts, it being acknowledged that legal remedies are inadequate. BAMA shall be entitled to its costs and attorneys fees in the event of any successful prosecution of a breach of this Agreement.

(c) Information furnished shall be used only for the purposes expressed above and may be used for other purpose only upon such terms and conditions as may be mutually agreed upon in writing.

Date: May 14, 1985

By: James A. Fenniman
James A. Fenniman

BANKERS AUCTION MARKET OF
AMERICA CORP.

Date: May 13, 1985

By: Leo Kayser, III
Leo Kayser, III
President

EXHIBIT A

The BAMA Concept relates to an Auction Market wherein banks and other entities act as agents for borrowers and lenders. Through a state of the art computer system network, potential borrowers and potential lenders are put in direct contact with one another through an auction process set forth on the computer screen. The banks act as guarantors for the promissory paper generated as a result of the closed transactions.

It is understood that this concept as set forth above is in the most general form and that there is greater detail to it to be provided under the non-disclosure statement.

ATTACHMENT # 7

NON-DISCLOSURE AGREEMENT

This agreement between Alan H. Schneider ("Schneider") and any persons or entities controlled directly or indirectly by him and BANKERS AUCTION MARKET OF AMERICA CORP. (BAMA) is entered into for the purpose of non-disclosure relating to the plan annexed hereto as Exhibit A.

1. Non-Disclosure. Schneider agrees as follows:

(a) Specifications, drawings, sketches, models, samples, data, computer programs or documentation or other technical or business information in written, graphic or other tangible form furnished, discussed or disclosed by BAMA, its officers, directors or employees, to Schneider shall be deemed the property of BAMA and the information and all copies thereof shall be returned to BAMA upon request.

(b) Schneider acknowledges that the "Information" is proprietary to BAMA and has been developed as a trade secret at BAMA's expense. Schneider agrees that it will hold and use the informative in the same manner as it deals with its own proprietary information and trade secrets and that Schneider will not divulge, nor permit any of his employees, agents or representatives to divulge any data or information with respect to the Product or the programs and technology embodied therein or any other documentation, models, descriptions, forms instructions or other information relating thereto. If Schneider or any of his employees, agents or representatives shall attempt to use or dispose of the Product or any of its aspects or components or any duplication or modification thereof in a manner contrary to the terms of this license, BAMA shall have the right, in addition to such other remedies which may be available to it, to injunctive relief enjoining such acts or attempts, it being acknowledged that legal remedies are inadequate. BAMA shall be entitled to its costs and attorneys fees in the event of any successful prosecution of a breach of this Agreement.

(c) Information furnished shall be used only for the purposes expressed above and may be used for other purpose only upon such terms and conditions as may be mutually agreed upon in writing.

Date: May 15, 1985

By: Alan H. Schneider
Alan H. Schneider

Date: May 13, 1985

BANKERS AUCTION MARKET OF
AMERICA CORP.
By: Leo Kayser, III
Leo Kayser, III
President

EXHIBIT A

The BAMA Concept relates to an Auction Market wherein banks and other entities act as agents for borrowers and lenders. Through a state of the art computer system network, potential borrowers and potential lenders are put in direct contact with one another through an auction process set forth on the computer screen. The banks act as guarantors for the promissory paper generated as a result of the closed transactions.

It is understood that this concept as set forth above is in the most general form and that there is greater detail to it to be provided under the non-disclosure statement.

ATTACHMENT # 8



November, 1985

INTRODUCTION

Bankers Auction Market of America (BAMACORP) creates a more efficient mechanism for savers and borrowers to meet. Depository institutions will compete on an equal basis for funds, regardless of size or geographic location while preserving the benefits of their traditional customer relationships. BAMACORP substantially reduces the liquidity risk associated with current banking practices. By using the BAMACORP system, institutions will be able to offer attractive borrowing and investment rates to their customers while also receiving a higher return on capital than traditional lending.

For institutions that qualify, BAMACORP brings an automated transaction service that will match savers and borrowers throughout the world. Transactions are evidenced by promissory notes with fixed interest rates, maturities, and principal amounts in denominations ranging from \$5,000 to \$100,000.

The system is accessed through computer terminals provided by BAMACORP, at no cost to the institutions for the first six months. Each terminal is linked to a state-of-the-art transaction based communications network. Through the BAMACORP system, depository institutions submit a required rate of return (ask price), maturity and dollar amount on behalf of the saver, or a required borrowing rate (bid), maturity and dollar amount on behalf of the borrower. For specific maturities, which range from 1 to 5 years in six month increments, the central processing unit instantaneously matches bids with ask prices in fixed dollar amounts. Cash settlement (on behalf of borrowers and savers) is accomplished through a major clearinghouse bank that is part of the BAMACORP system.

The Bankers Auction Market of America Certificate (BAMAC) is a prime rated negotiable promissory note which is collateralized by the borrower. Principal and interest due to the saver is primarily guaranteed by the borrower's institution. Payment is secondarily guaranteed by a prime-rated surety. The third party which guarantees the BAMAC principal and interest payments is the institution representing the saver. The BAMAC is a contingent liability to the guarantors, and is reserved against only by the borrower's institution.

Payment to BAMACORP for use of the system consists of a cash fee equal to one-half of one percent of the face value of each BAMAC. A cash fee of one percent is also paid to the surety. Both the borrower's bank and the institution representing the saver are free to price competitively their cash fees for each transaction. All fees are paid at the time of settlement and are reflected as discounted principal due the borrower. With every BAMAC placed, the borrower's bank will also have free use of accrued monthly amortization payments made by the borrower into the BAMAC Sterilization Account (non-interest bearing deposit account).

*what
consequence for
system x*

In addition to the direct economic benefits listed above, BAMACORP also provides many of the operating functions associated with conventional banking practices. By providing support functions such as an automated clearinghouse and extensive record keeping, BAMACORP reduces the likelihood of losses charged to the bank due to operating errors. BAMACORP also reduces the overhead associated with marketing deposit products, since saver funds can be accessed at the touch of a button. All of this relieves member banks of unnecessary operational burdens, allowing them to offer more competitive rates to their customers or increase their own profitability.

THE SYSTEM

Institutions qualified to participate in the Bankers Auction Market of America system (see "BAMACORP MARKET" section for participation requirements) will perform in the same capacity as they do now. An institution will still be responsible for evaluating the credit worthiness and collateral of its borrowing customers before it accesses the BAMACORP system. Upon compliance with its credit risk standards, the borrower's institution can query the BAMACORP system for a yield curve comprised of consummated transactions at six month intervals ranging from one to five years. The yield curve serves as a basis for determining the approximate cost of funds for the borrower. The saver's institution will also have the opportunity to query the BAMACORP system for the same information. In this case, the curve represents average rates of return the institution can offer its customers.

Once an institution has determined its competitive strategy on investment of saver funds, it will input the following information through a BAMACORP terminal:

- * Account information (e.g. saver name, address, name of originating institution etc.)
- * A required rate of return (ask price), maturity, principal amount, and its own cash fee for placing funds

Note: Account information is not revealed to either the borrower's or the saver's institution unless a match is made.

An institution seeking such funds will be able to view a list of all ask prices (in percent) and associated cash fees (in basis points) submitted by institutions representing savers. The diagram below is an example of the information available to borrower's institution's:

1 YEAR			1.5 YEARS			2 YEARS		
Prin.	Rate	Fee	Prin.	Rate	Fee	Princ.	Rate	Fee
5000	8.80	64	5000	9.10	60	10000	9.21	59
10000	9.22	53	10000	9.25	45	15000	9.29	62
10000	9.09	58	15000	9.10	30	15000	9.47	48
25000	8.90	69	15000	9.40	50	30000	9.90	67
50000	9.87	60	90000	10.00	31	95000	10.16	45

From the terminal display, a borrower's institution will choose an offering which provides an adequate return on capital and a competitive borrowing rate for its customer. The institution will then input its account information and an acceptance message. The system confirms the transaction through both the BAMACORP terminal and with a hardcopy printed at each institution. For those offerings which are not matched, the saver's institutions have the option of either leaving their offers on the system or inputting more competitive quotes.

After a bid and ask price are matched and confirmation is received, settlement is then made between saver and borrower. The institution representing the saver receives the principal amount and initiates a funds transfer (through the BAMACORP terminal), using the BAMACORP clearinghouse as agent. The clearinghouse is responsible for reconciling the record of transaction it receives from BAMACORP with the funds transfer advice it receives from the saver's institution. The clearinghouse bank then receives the full face value of the BAMAC and deducts the following:

- * The origination fee paid to the institution representing the saver
- * The placement fee paid to the institution representing the borrower
- * The fee paid to BAMACORP
- * The fee paid to the surety guaranteeing the BAMAC

When the above fees are deducted and credited to the appropriate accounts, the clearinghouse bank distributes (via electronic funds transfer) the residual amount to the institution representing the borrower which then passes the funds to the borrower. Upon settlement, the BAMAC certificate is issued by the clearinghouse to the institution representing the saver.

Throughout the term of the BAMAC, the borrower's bank receives monthly principal and interest payments from the borrower which accrue in the BAMAC Sterilization Account. From this account, interest payments are passed through to the saver on a quarterly basis. The balance of the sterilization account represents interest free investible funds for the borrower's bank over the term of the BAMAC. At maturity, the holder of the BAMAC presents the certificate for redemption at the clearinghouse bank. Upon notification of redemption by the clearinghouse, the borrower's institution initiates a funds transfer for final settlement of the BAMAC principal and any accrued interest. Appendices A, B and C provide a graphic illustration of the above processes.

BAMACORP GLOBALIZES CUSTOMER BASE TO REDUCE RISK

BAMACORP comes at a critical time for the banking and thrift industries, because it provides an efficient solution to one of the most important risk-return decisions a depository institution must make: How to balance its supply of funds with demand for funds. When it has more funds than it can lend out, an institution usually lowers the rates paid on deposits in effort to reduce its interest costs. However, because this action could lead to a permanent loss of customers, long-run profitability can be negatively impacted. When an institution has more loan demand than stable deposits to fund the loans, it is exposed to a similar situation. It can either forgoe profitable opportunities (and potentially damage customer relationships), or it can look for riskier, more expensive sources of funding.

Depending upon market conditions, the decision made on these issues can affect an institution in drastically different ways. A striking example of this is the recent collapse of the Continental Illinois Trust Company. In what the American Banker called "the biggest banking setback since 1931", Continental experienced the wholesale equivalent of the classic deposit run on a local bank. The bank's liquidity problems stemmed from its narrow deposit base. As Walter Wriston, the former chairman of Citicorp, described it:

- "The first rule in banking is to spread your risk. Continental was rolling over \$35 million in short-term paper every day because it had no consumer base. When regulation limits you to one branch on LaSalle Street, you've got a situation where someone's bound to get into trouble."

The bank's aggressive growth policy extended beyond its ability to fund loans safely through its consumer base (Illinois is a unit banking state). Instead of not making the loans, Continental chose to purchase short-term funds in the foreign interbank market. The resulting maturity imbalance in its balance sheet (i.e. long-term loans funded with short-term liabilities) drastically increased the bank's exposure to interest rate changes and potential liquidity problems.

The BAMACORP system provides several important features which would have averted many of the problems surrounding Continental Illinois' collapse. By permitting split-second access to saver funds around the world, BAMACORP provides banks with an instant consumer base that stretches from coast-to-coast and internationally. Because the BAMACORP system completes transactions based on direct principle and maturity matches, liquidity problems due to maturity imbalances are never created.

By drastically reducing the need to forecast cash requirements, BAMACORP also reduces amount the of cash reserves an institution must hold in order to meet unexpected cash outflows. Because the BAMAC is a fixed term instrument, the possibility of unplanned withdrawals of funds by savers (e.g. as in the Continental case) is eliminated. Even in the event of a borrower default, an institution has the remainder of the term to maturity to plan its funding needs. With BAMACORP, banking institutions now have an easy, low-cost way to reduce liquidity risk in their portfolios.

BAMACS GENERATE A HIGH RETURN ON CAPITAL

Profitability in any business should be evaluated in terms of its return on capital since it measures how efficiently a company uses funds provided by equity investors. Returns on equity in the commercial banking and thrift industries have declined 28% and 50% respectively since 1974, as compared to increases of as much as 80% in other industries. (1)

The reason for this decline is that the banking "formula" for intermediation (i.e. taking deposits and making loans) is not as efficient as that of other institutions. Banks are very "balance sheet-intensive" in that they require a high level of income to compensate for risk. Competing institutions which "securitize" debt are vastly more efficient because most risk is transferred to savers and borrowers. By taking on less risk, these institutions can generate higher returns on less capital.

By using the BAMACORP system, an institution needs less capital than a with traditional consumer loan to generate the same level of income. This is because an institution's capital is allocated only as sterilization account payments become investable cash assets over the life of the BAMAC. A loan requires that capital be allocated to the face value as soon as the instrument is originated. The following diagram uses data from Appendix E to compare returns on capital generated from a typical one year consumer loan (15%) and a one year BAMAC (10%) each with a \$10,000 face value:

	BAMAC	LOAN
Interest Income	481	1,345
Non-Interest Income (Fees)	75	0
Interest Expense	0	(635) (2)
Non-Interest Expense	(146) *	(293) (2)
Net Income	410	417
Capital Allocated	739	800
Return on Capital (Net Income divided by Capital Allocated)	56%	52%

* Figure is 50% of non-interest expense for loan

- (1) Industry Norms and Key Business Ratios, Dunn and Bradstreet, New York City 1984
- (2) Figure based on 1983 average net interest expense (6.35%) and non-interest expense (2.93%) for commercial banks: Source - Statistical Information on the Financial Services Industry, American Banker's Association, Washington D.C. 1984

In addition to making more efficient use of capital, BAMACORP's globalized customer base will permit its member institutions to take full advantage of all fluctuations in their local economies. During periods of slack loan demand, an institution can collect cash fees with minimal risk by placing excess saver funds in areas of the country where there is increased demand for credit. And since the saver's institution does not have to reserve against its guarantee (this has already been done by the borrower's institution), its BAMAC fees compare very favorably with standby letters of credit and other off-balance sheet financial products.

BAMACORP also realizes that, in the future, banks will not be able to exist strictly on interest rate spreads. Competition from a variety of products like Merrill Lynch's Cash Management Account and GMAC financing, have siphoned away savers and quality borrowers. The result has been a permanent decrease in spreads throughout the financial services industry. The banking institutions which will be able to increase their profitability in this highly competitive environment, will be those able to generate a greater volume of business at lower spreads.

The ultimate success or failure of a high volume strategy depends on distribution capability. An institution must have an expanded market presence in order to deliver more attractive rates to its potential customers. However, both the investment in technology and the cost of establishing bank (or non-bank) operations to gain this presence can be prohibitively high, especially for smaller banks.

BAMACORP eliminates the need for this investment by its members. Through the efficiencies of state-of-the-art automation, a bank, thrift or brokerage house can use the BAMACORP system to reach out to profitable markets never before available. By passing on to its customers savings from reduced overhead expenses, a BAMACORP member institution is armed with a product which will stop the erosion of its present customer base and generate profitable new business.

THE ECONOMIC BENEFITS OF BAMACORP

The economic benefit of the BAMACORP system is demonstrated by comparing the effects of federal anti-branching legislation (the McFadden Act) on competition between large and small banking institutions and how this has distorted the marketplace. The intention of interstate banking legislation is to promote the existence of many smaller banks in order to better serve localized markets. However, by preventing larger institutions from expanding outside of their home states, this legislation has actually created weak firms (many small institutions) in protected markets. As a result, large banks (and other large financial institutions) in their natural desire to increase profits have exploited regulatory weak points and invaded the territory of smaller institutions.

Specifically, through "non-bank" subsidiaries, large institutions can establish deposit gathering or loan production offices throughout the country. Because smaller institutions generally do not have the resources to compete on this level, many have been forced to engage in riskier activities in order to remain profitable. The net effect of this type of competition has increased the overall level of default risk born by the banking industry and the economy in general.

Another glaring inefficiency of regulation is that it discriminates against customers of small institutions. Because their markets are more restricted than larger institutions (i.e. in terms of funds gathering and loan production capability), small banks are limited to the extent by which they can offer higher deposit rates and lower borrowing rates to their customers. As a result, the real victims of anti-branching legislation are the multitude of small savers and borrowers who are unable to take advantage of more competitive bank rates around the country.

BAMACORP for the first time rationalizes the regulatory trade-off between safe banking practice and competitive innovation. By linking institutions from around the country, the system minimizes size as a competitive factor in circumventing anti-branching legislation. In essence, BAMACORP creates a "level playing field" upon which all banking institutions can compete equally. For smaller institutions without the capital resources to develop non-banking operations, BAMACORP offers a powerful tool to increase their market size. For larger institutions, who are still the primary target of regulatory authorities (e.g. regional bank compacts), BAMACORP offers a means to operate in restricted localized markets. Thus, BAMACORP reinforces regulatory objectives by allowing all institutions to continue to serve the markets which they know best in open and fair competition.

The ultimate beneficiaries of increased competition are banking customers who realize more competitive borrowing and lending rates. Again, by using the example from Appendix E, a one-year BAMAC with a 10% face value provides the holder with a 10.37 % yield to maturity. This rate is currently as much as 200 basis points higher than bank certificates of deposit of comparable maturity. This rate also compares very favorably with other instruments of similar risk (average yield for AAA corporate bonds is currently 10.93%) (3). The borrower also has a lower cost of funds since the Annual Percentage Rate on the BAMAC in this example is 14.81% compared to 15.00 % on the loan. Keeping in mind that these higher returns and lower borrowing costs are achieved while preserving the customer relationship, the BAMACORP system simply provides a more profitable and efficient method of financial intermediation than traditional banking.

(3) Moody's Bond Survey, September 2, 1985

THE BAMACORP MARKET

Initially, BAMACORP will focus on the market for collateralized consumer instalment credit at commercial banks, savings and loan associations, mutual savings banks and credit unions. At the end of 1984 this market represented \$253 billion and was comprised primarily of automobile and mobile home loans (\$197 billion combined). The rest of this figure included loans for such items as household appliances and various other consumer goods. This market was chosen because it is currently the least efficient in terms of the limited choices available to savers and borrowers. However, usage of the system can eventually be expanded to service any type of collateralized financing including the residential mortgage, small business and agricultural markets (\$1,332, \$120, \$162 billion respectively) (4).

Only a portion of this \$253 billion market is eligible for placement through the BAMACORP system, because BAMACORP member institutions must meet stricter capital requirements than public regulatory agencies require. Empirical studies have shown that the level of capital at a depository institution has a direct impact on its ability to meet unexpected cash outflows. Capital is also an important indicator of the ability of an institution's creditors (i.e. depositors, noteholders) to recover their investments after a default.

BAMACORP uses, as a basis for its membership criteria, the benchmark capital to assets ratios employed by the Federal Deposit Insurance Corporation (FDIC), the Federal Home Loan Bank Board (FHLB), and the National Credit Union Association (NCUA). BAMACORP adds a fifty percent safety factor to each of these ratios as an extra level of security. The chart on the following page lists the amount of assets within each institutional group which qualify to be placed as BAMACs:

(4) 1985 Financial Facts Yearbook, American Financial Services Association, Washington D.C.

INSTITUTION	AGENCY CAPITAL REQUIREMENT	BAMACORP CAPITAL REQUIREMENT	QUALIFIED ASSETS (BILLIONS)
Commercial Banks	6.0% (5)	9.0%	\$20
Credit Unions	6.3 (6)	9.1	32
Savings and Loans	3.0 (7)	4.5	8
Mutual Savings Banks	3.0 (8)	4.5	3
Total BAMACORP Market			\$63

- (5) FDIC equity to assets ratio
- (6) NCUA net worth over total assets ratio
(industry average for 1980)
- (7) FHLB net worth over total assets ratio
- (8) FDIC net worth over total assets ratio

BAMACORP SURETY RISK

As the secondary guarantor for all BAMACs, the BAMACORP surety can earn unprecedented underwriting income with minimal risk. If there were \$1 billion worth of BAMACs underwritten in the first year of operations, the surety could expect to receive \$10 million in premium income while incurring losses of only \$8,800 over five years.

In order for the surety actually to have to pay off a BAMAC, the borrower's institution must be declared insolvent by federal regulatory authorities (with no state or federal rescue), and the borrower must default. In the event that the primary guarantor fails and there is no borrower default, all of the failed institution's BAMACs become the direct responsibility of the surety which will act as receiver. The borrower will continue to make monthly principal and interest payments to the clearinghouse bank which will continue to pass on quarterly interest payments (and principal upon maturity) to the BAMAC holders. For its part as receiver, the surety will have a direct lien on the borrower's collateral and the net worth of the borrower's institution. In addition, the surety will retain all of the benefits of investing the remaining sterilization account payments on its own behalf.

The likelihood of any loss or gain resulting from a default situation is a function of both the probability of a BAMACORP member institution failing and the probability of a borrower defaulting on a BAMAC. BAMACORP estimates the probability of a member institution failing to be equal to the ratio of deposits at failed banks to total deposits at all commercial banks. In 1984, this ratio was .18% (9). However, it should be noted that this probability will be significantly reduced by BAMACORP's more stringent membership requirements.

The probability of a BAMACORP borrower defaulting is much easier to estimate. Since the same credit standards are applied to both BAMACs and consumer loans, the probability should approximate the industry-wide loan loss experience for bank credit (about .4% of assets) (10). The chart on the following page lists the probable losses associated with the worst case default scenario outlined in Appendix D. It also indicates the sensitivity of the two probabilities to factors which are many times greater than the BAMACORP estimates. The probable loss is calculated by multiplying the two probabilities and the worst case net present value (five year BAMAC) found in Appendix D.

(9) Statistical Information on the Financial Services Industry, American Bankers Association, Washington D.C. 1984

(10) see 9

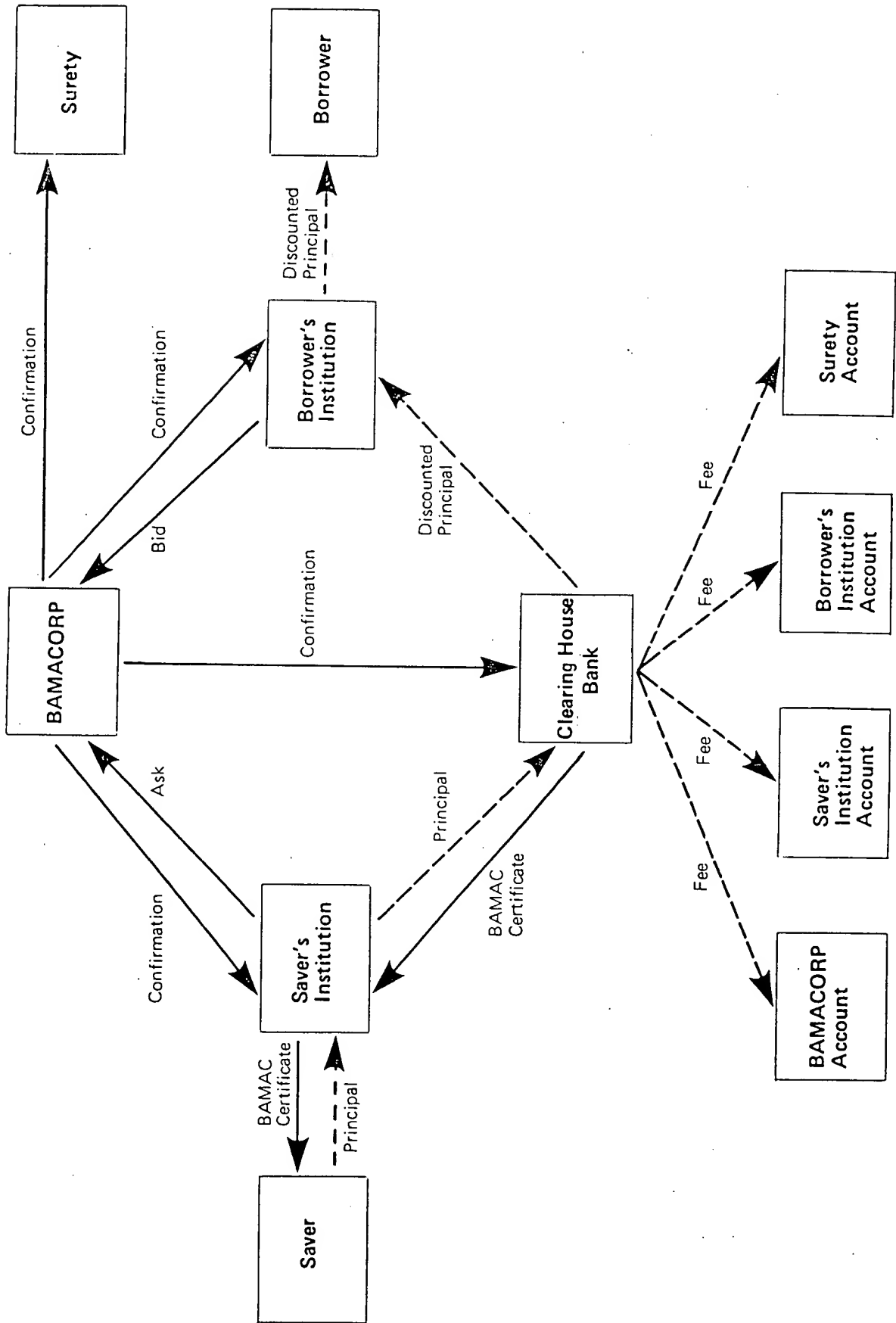
FACTOR	INSTITUTIONAL DEFAULT PROBABILITY	BORROWER DEFAULT PROBABILITY	WORST CASE LOSS	LOSS TO PREMIUM RATIO	UP TO 5 YEARS
Industry Average	.18%	.40%	\$8,800	.09%	.45%
10 %	.20	.44	10,800	.10	.50%
100 %	.36	.80	35,200	.35	1.35%
1000 %	1.80	4.00	880,000	8.80	

As the chart illustrates, even if the borrowers and their institutions default at a rate that is ~~one thousand~~ times greater than current levels and the worst case scenario is assumed, the surety will incur losses of less than ~~10%~~ of earned premium income.

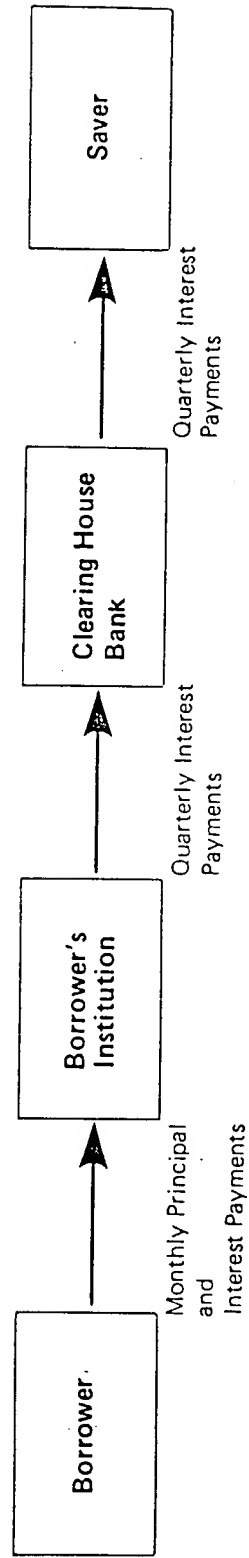
FACTOR	INSTITUTIONAL DEFAULT PROBABILITY	BORROWER DEFAULT PROBABILITY	WORST CASE LOSS	LOSS TO PREMIUM RATIO	UP TO 5 YEARS
Industry Average	.18%	.40%	\$8,800	.09%	.45%
10%	.20	.44	10,800	.10	.50
100%	.36	.80	35,200	.35	1.85

As the chart illustrates, even if the borrowers and their institutions default at a rate that is one hundred times greater than current levels and the worst case scenario is assumed, the surety will incur losses of less than 2% of earned premium income.

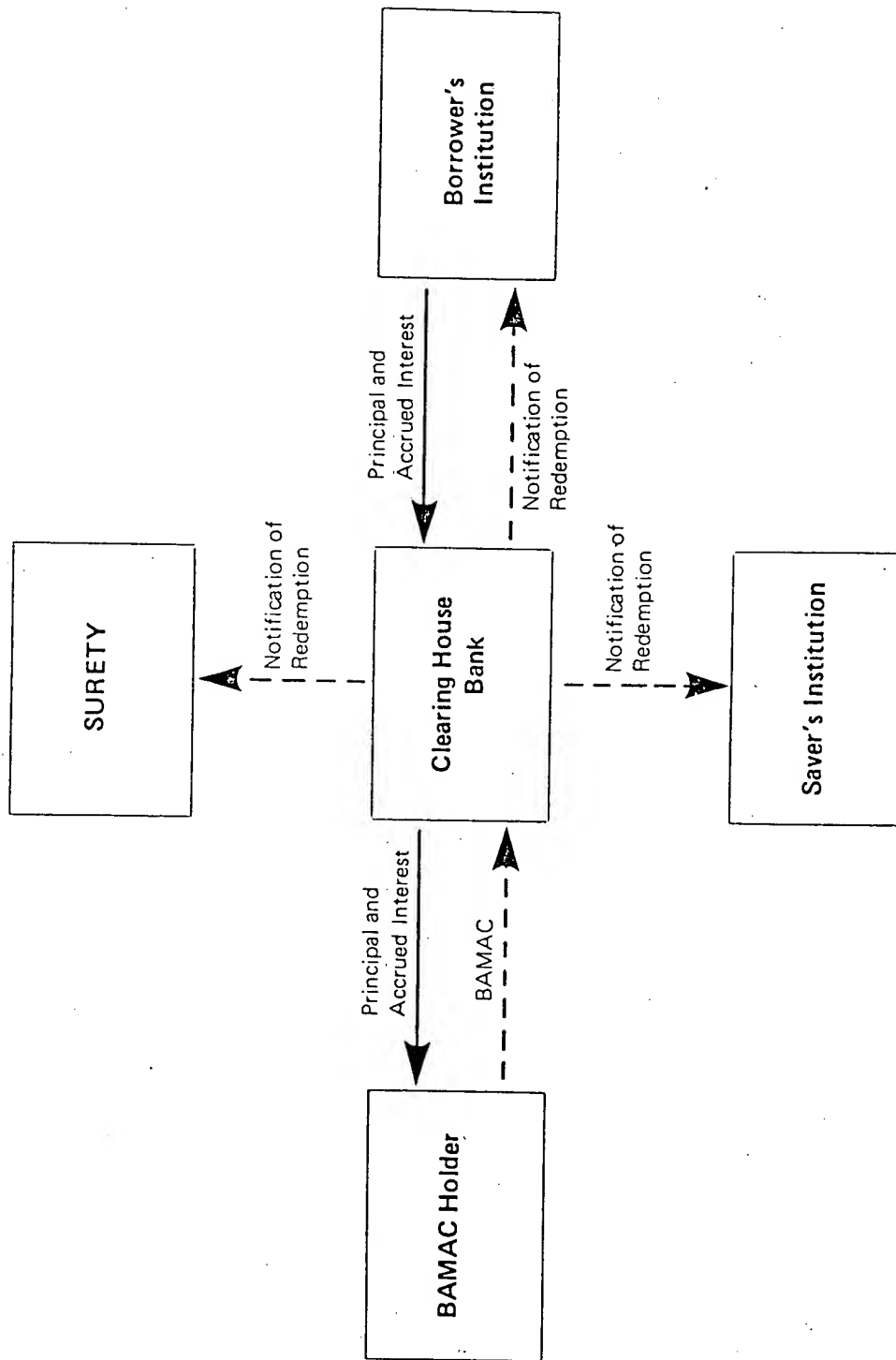
Appendix A AUTOMATED MATCHING AND SETTLEMENT



Appendix B MONTHLY AND QUARTERLY PAYMENTS



Appendix C SETTLEMENT UPON MATURITY



APPENDIX D
Evaluating Surety Risk

ASSUMPTIONS

- 1) Cashflows are discounted using a 10% cost of capital for both borrower's institution and surety
- 2) Worst case default NPV results from a concurrent default by both the borrower and the borrower's institution immediately after origination of the BAMAC, coupled with a total loss of collateral and accrued sterilization account funds
- 3) Most likely NPV is the average of the best case and worst case NPVs
- 4) Best case default NPV results from a concurrent default by both the borrower and the borrower's institution just before BAMAC maturity, coupled with immediate sale of collateral at book value and immediate receipt of accrued sterilization account funds from failed institution
- 5) BAMAC principal assumes \$1 billion outstanding
- 6) All collateral is depreciated on a straight line basis over five years

VARIABLES FOR NPV CALCULATIONS

- x = number of compounding periods that elapse between origination of BAMAC and institutional default
- y = number of compounding periods that elapse between institutional default and receipt of accrued sterilization account funds by surety
- z = number of compounding periods that elapse between institutional default and borrower default
- m = total number of monthly sterilization account payments (compounding periods) for a BAMAC of specific maturity
- q = total number of quarterly interest payments (compounding periods) made to savers for a BAMAC of specific maturity
- c = number of compounding periods that elapse between the origination of the BAMAC and the sale of the collateral

b = number of compounding periods that elapse between the origination of the BAMAC and the borrower default

quarterly payment = dollar amount of quarterly interest payments made to BAMAC holders

NET PRESENT VALUE FORMULA

$$\begin{aligned}
 \text{NPV(SURETY LOSS OR GAIN)} = & \text{(PVIFA)} \quad \text{sterilization account payments made between institutional default and borrower default} + \\
 & \text{(PVFS)} \quad \text{receipt of accrued steril. account funds from failed institution} + \text{(PVFS)} \quad \text{sale of collateral at book value after borrower default} - \\
 & \text{(PFIFA)} \quad \text{quarterly interest payments after institution default} - \text{(PVFS)} \quad \text{principal repayment after institution defaults}
 \end{aligned}$$

$$\begin{aligned}
 \text{NPV} = & \text{PVIFA}(1, 10\%/n, z) + \text{PVFS}(\text{PVIFA}(1, 10\%/n, x), 10\%, y) + \\
 & + \text{PVFS}(1-(1/60)c, 10\%/n-c, n-b) \\
 & - \text{PVIFA}(\text{quarterly payments}, 10\%/q-x, q-x) - \text{PVFS}(1, 10\%/n-x, n-x)
 \end{aligned}$$

NET PRESENT VALUE OF VARIOUS DEFAULT SITUATIONS

Term	Match Rate	Total BAMACs Insured (millions)	Worst Case NPV (millions)	Most Likely NPV (millions)	Best Case NPV (millions)
1	11.5%	\$1,000	-\$98	-\$127	\$730
2	12.0	1,000	-1,016	-206	572
3	12.5	1,000	-1,064	-349	397
4	13.0	1,000	-1,143	-460	206
5	13.5	1,000	-1,222	-587	32

APPENDIX E
BAMAC - Loan Comparison

ASSUMPTIONS

DISCOUNT RATE	=	6.4 %	(11)
INVESTMENT RATE	=	9.6 %	(12)
BAMAC MATCH RATE	=	10.0%	
LOAN RATE	=	15.0%	
SAVER'S INSTITUTION FEE	=	25	basis points
BORROWER'S INSTITUTION FEE	=	75	basis points
BAMACORP FEE	=	50	basis points
SURETY FEE	=	100	basis points

BAMAC RETURN TO BORROWER'S INSTITUTION

Period	Monthly Cashflows	Investable Funds	Investment Income
1	879	879	7
2	879	1758	14
3	629	2387	19
4	879	3267	26
5	879	4146	33
6	629	4775	38
7	879	5654	45
8	879	6533	52
9	629	7162	57
10	879	8042	64
11	879	8921	71
12	629	9550	76
NPV	= 9234		481
Allocated =	739 (8% x 9234)		
Capital			

(11) Figure based on 1983 average interest expense (6.35%) for commercial banks: Source - 1984 Statistical Information on the Financial Services Industry, American Banker's Association, Washington D.C. 1984

(12) Figure based on 1983 average interest income (9.55%) for commercial banks: Source - see (11)

LOAN RETURN TO BORROWER'S INSTITUTION

	Monthly Cashflows	Interest Portion of Payment	Investable Funds	Investment Income	Total Income
1	903	125	900	7	132
2	903	115	1806	14	129
3	903	105	2708	22	127
4	903	95	3610	29	124
5	903	85	4513	36	121
6	903	75	5415	45	120
7	903	64	6318	50	114
8	903	54	7221	58	112
9	903	43	8123	65	108
10	903	33	9026	72	105
11	903	22	9928	79	101
12	903	11	10831	86	97

Allocated Capital = $800(8\% \times 10000)$

NPV = 1345

BORROWER'S COST OF FUNDS

Period	BAMAC Cashflows	Loan Cashflows
0	9750	10000
1	-879	-903
2	-879	-903
3	-879	-903
4	-879	-903
5	-879	-903
6	-879	-903
7	-879	-903
8	-879	-903
9	-879	-903
10	-879	-903
11	-879	-903
12	-879	-903

Annual = 14.81%
% Rate

15.00%

SAVER'S YIELD FROM BAMAC

Period	Cashflows
0	-10000
1	250
2	256
3	263
4	10269
Yield =	10.37%